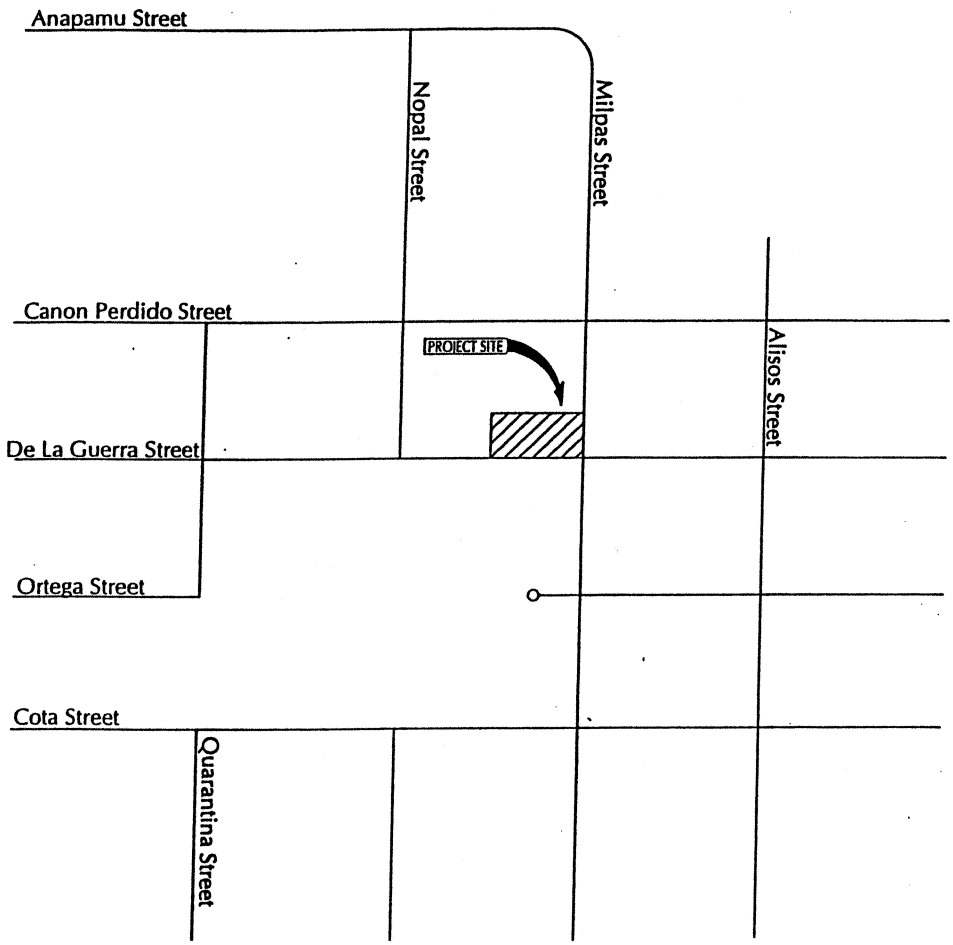
803 MILPAS STREET MIXED-USE PROJECT
CITY OF SANTA BARBARA, CALIFORNIA

TRAFFIC, CIRCULATION, AND PARKING STUDY



June 14, 2007 **ATE #07030**

Prepared for:

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TRAFFIC, CIRCULATION, AND PARKING STUDY FOR THE 803 MILPAS STREET MIXED-USE PROJECT - CITY OF SANTA BARBARA

Associated Transportation Engineers (ATE) has prepared the following traffic, circulation, and parking study for the 803 Milpas Street Mixed-Use Project, located in the City of Santa Barbara. The study addresses potential traffic, circulation, and parking impacts associated with the project and identifies improvements where appropriate.

Associated Transportation Engineers

Scott A. Schell, AICP
Principal Transportation Planner

CONTENTS

TABLES

FIGURES

INTRODUCTION

The following report contains an analysis of the potential traffic, circulation, and parking impacts associated with the 803 Milpas Street Mixed-Use Project. The report provides information regarding existing and future traffic conditions within the project study-area, and recommends improvements where necessary. The report also contains an analysis of site access, circulation, and parking issues.

PROJECT DESCRIPTION

The project is proposing to redevelop a former Chevron Service Station site with 3,224 gross square feet (GSF) of commercial space and eight residential condominiums, including six 2-bedroom units and two 3-bedroom units. Over 50% (1,951 GSF) of the proposed commercial space is divided up among six of the proposed residential units, allowing them to function as"live-work "units. One these "live-work" units (Unit #8) would be deed-restricted to require that the commercial space within that unit (216 GSF) be occupied by the owner of the unit. This deed-restricted commercial space is included in the 3,224 GSF total for the project. The proposed project is located at the northwest corner of the Milpas Street/De La Guerra Street intersection in the City of Santa Barbara, as illustrated in Figure 1. Access to the site is to be provided by a driveway on De La Guerra Street, located along the project's southern frontage. Residential parking is to be provided by private garages for each unit. The garages will provide two parking spaces for each unit, for a total of 16 parking spaces. Parking for the commercial uses and the residential visitors will be provided by 10 surface parking spaces located on the site. Figure 2 shows the Project Site Plan.

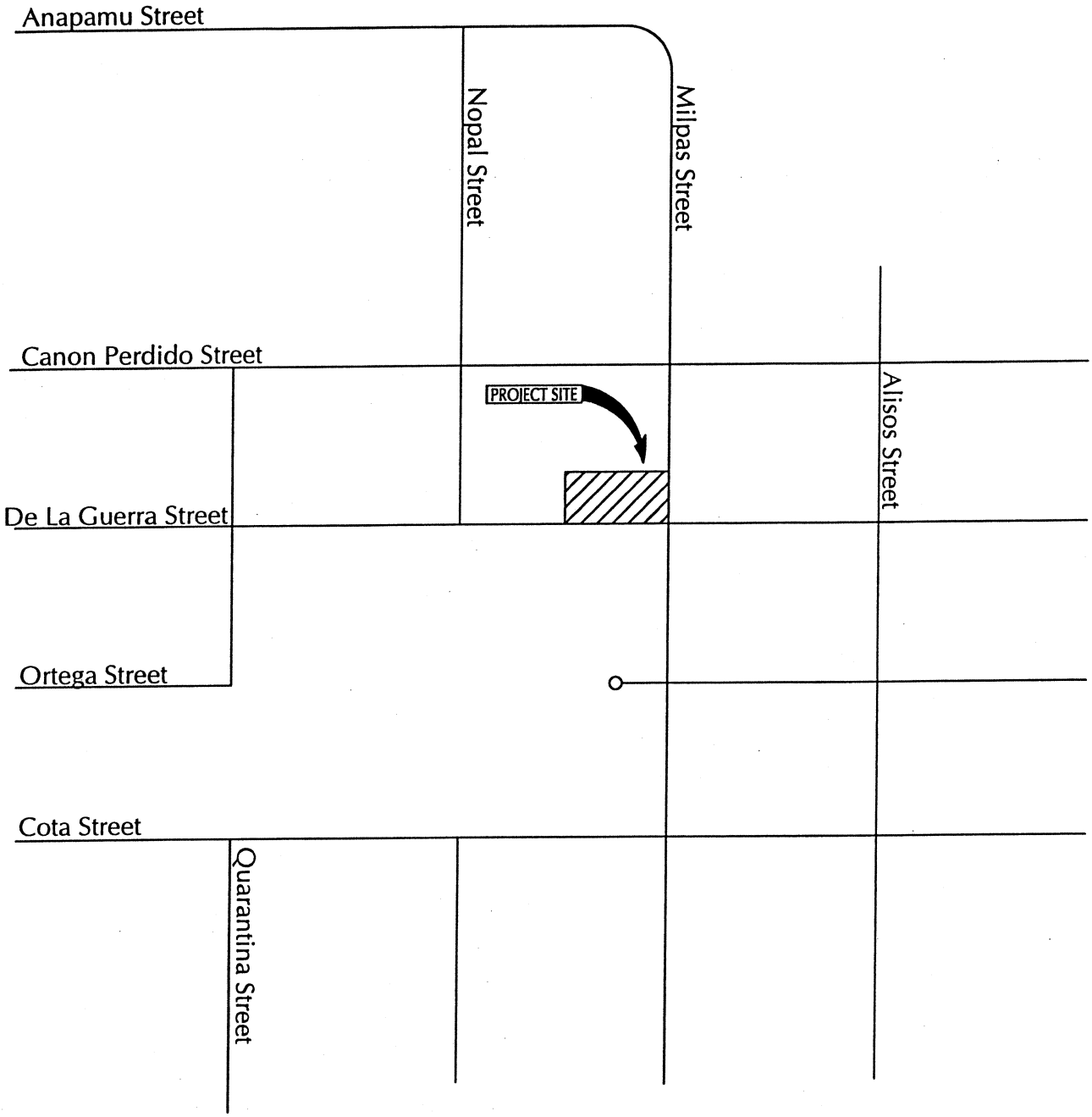
EXISTING CONDITIONS

Street Network

The project site is served by a network of highways, arterial streets and collector streets, as illustrated in Figure 1. The following text provides a brief discussion of the major components of the study-area street network.

U.S. Highway 101, located south of the site, provides regional access to the site via the Milpas Street interchange. U.S. Highway 101 connects the City of Santa Barbara with Goleta, Buellton and Santa Maria to the north; and with Montecito, Carpinteria and Ventura to the south. U.S. Highway 101 is a 6-lane freeway west of the Milpas Street interchange, and a 4-lane freeway east of the interchange.

Milpas Street, located along the project's eastern frontage, is a four-lane road that extends north from the Santa Barbara waterfront area until it's terminus at Anapamu Street, adjacent to the Santa Barbara County Bowl. Milpas Street will provide direct access to the U.S. Highway 101 for project traffic. Within the study-area, the Milpas/De La Guerra intersection is controlled by a traffic signal, and the Milpas/Ortega intersection is controlled by stop signs on Ortega Street.



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EXISTING STREET NETWORK AND PROJECT SITE LOCATION

FIGURE 1

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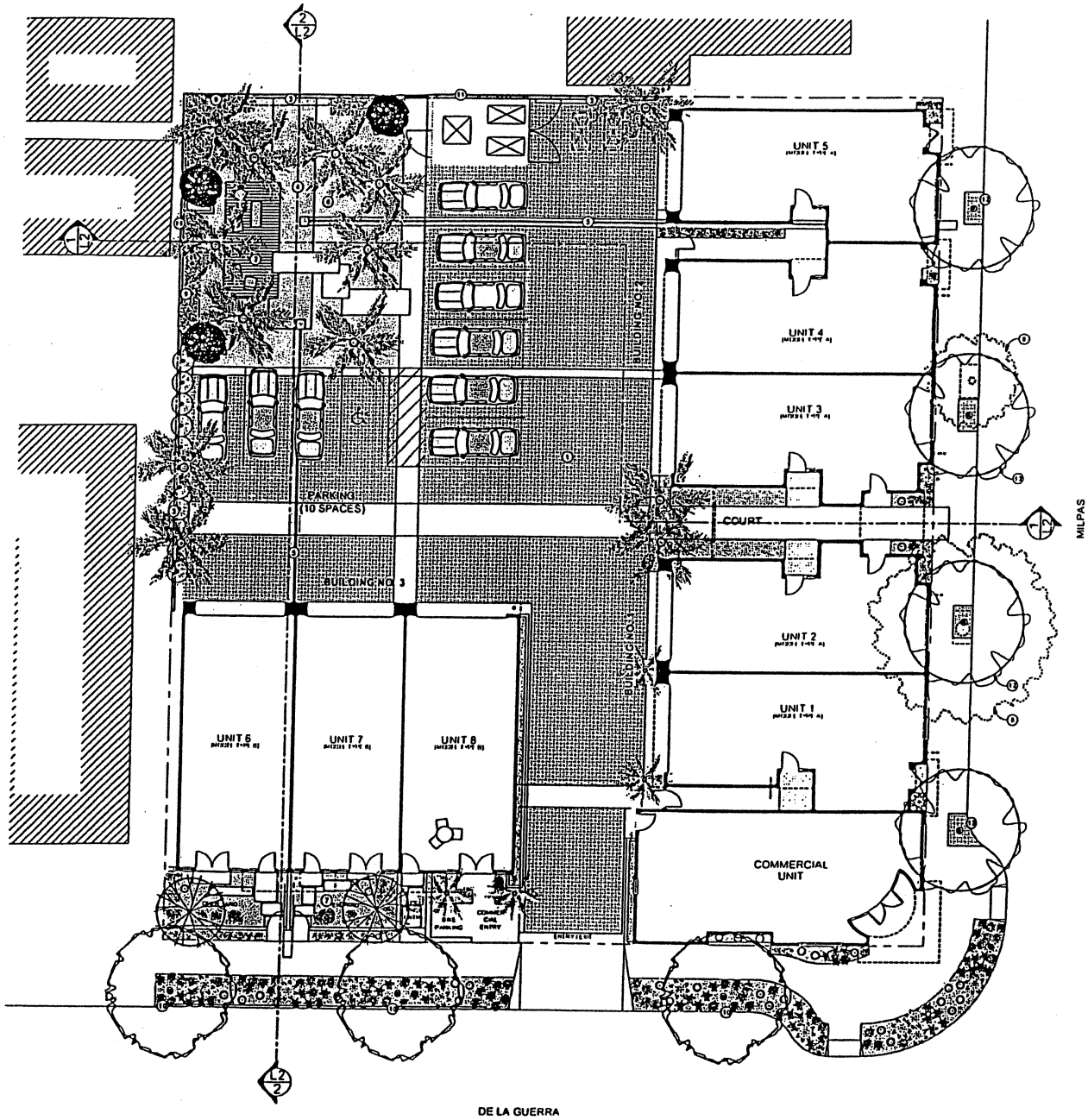

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PROJECT SITE PLAN

FIGURE 2

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De La Guerra Street, located along the project's southern frontage, is a 2-lane roadway that extends east from downtown Santa Barbara until it's terminus at Chiquita Road. This roadway provides a link between the project and the Downtown and Eastside areas of the City. Access to the 803 Milpas Street Mixed-Uses Project would be provided by a driveway on De La Guerra Street. A traffic signal controls the Milpas/De La Guerra intersection.

Intersection Operations

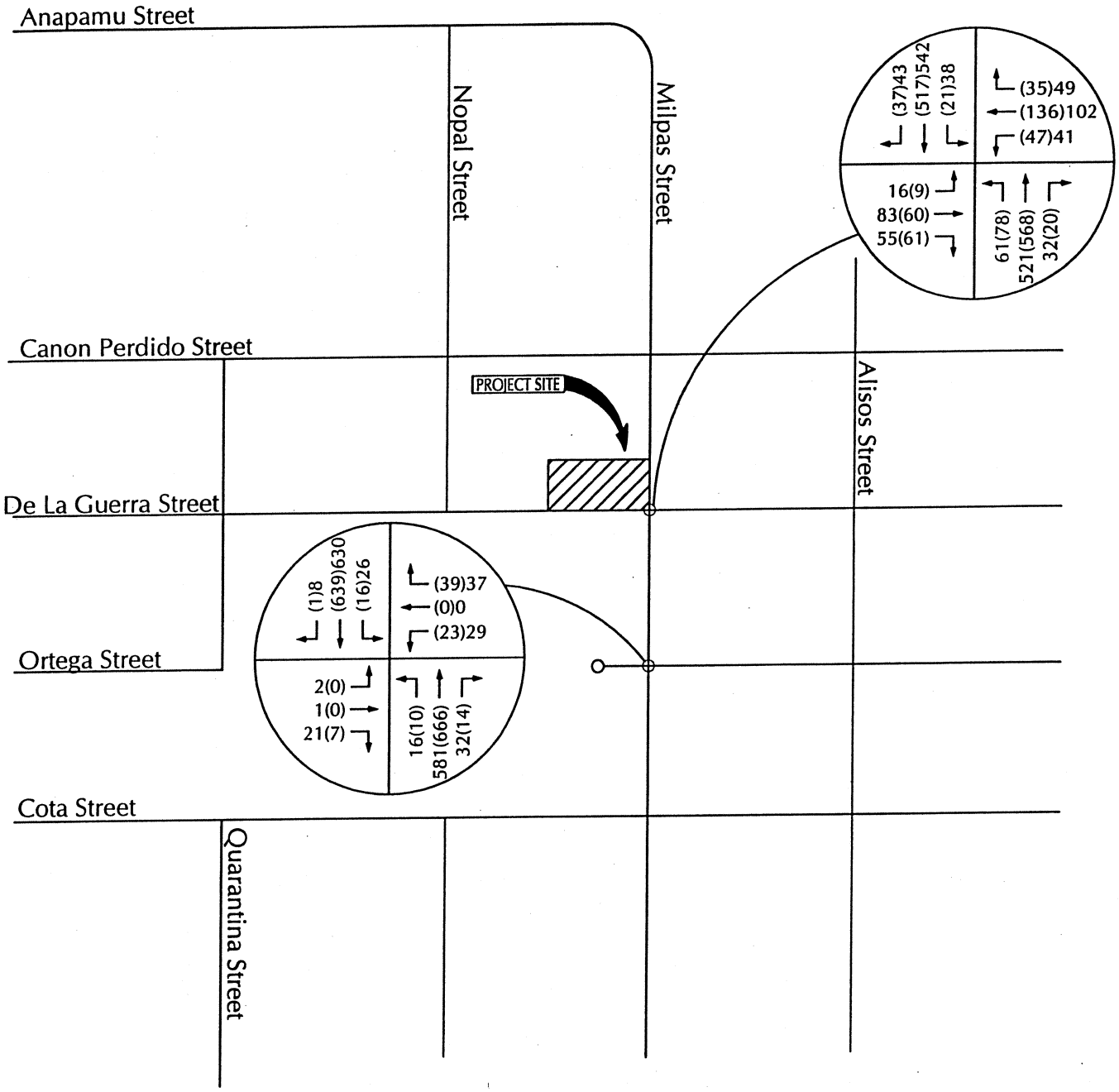
Because traffic flow on urban arterials is most constrained at intersections, detailed traffic flow analyses focus on the operating conditions of critical intersections during peak travel periods. In rating intersection operations, "Levels of Service" (LOS) A through F are used, with LOS A indicating free flow operations and LOS F indicating congested operations (more complete definitions of levels of service are included in the Technical Appendix). The City considers LOS C with a volume-to-capacity ratio of 0.77 as the minimum acceptable operating standard for signalized intersections, and an average vehicle delay of 22 seconds as the minimum standard for unsignalized intersections.

Existing peak hour volumes for the study-area intersections were derived from counts conducted in April, 2007 (traffic count data is contained in the Technical Appendix for reference). Existing A.M. and P.M. peak hour traffic volumes for the study-area intersections are shown on Figure 3. Levels of service for the signalized study-area intersections were calculated based on the "Intersection Capacity Utilization" (ICU) methodology. Table 1 lists the existing intersection levels of service (calculation worksheets are contained in the Technical Appendix).

Table 1
Existing Intersection Levels of Service

Intersection	A.M. Peak		P.M. Peak	
	ICU/Delay	LOS	ICU/Delay	LOS
Milpas Street / De La Guerra Street	0.49	A	0.48	A
Milpas Street / Ortega Street	15.1 sec.	C	14.7 sec.	B

The data presented in Table 1 shows that the study-area intersections currently operate in the LOS A - C range. These levels of service are considered acceptable based on the City's operational standards for signalized and unsignalized intersections.



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EXISTING PEAK HOUR TRAFFIC VOLUMES

FIGURE 3

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THRESHOLDS OF SIGNIFICANCE

The City's project-specific and cumulative impact thresholds are outlined below.

Project-Specific Threshold. The City's project-specific impact threshold states that if a development project would cause the V/C ratio at an intersection to exceed 0.77, or if the project would increase the V/C ratio at intersections which already exceed 0.77 by 0.01, the project's impact is considered significant.

Cumulative Threshold. The City cumulative impact threshold states that if a development project would add traffic to an intersection which is forecast to operate above V/C 0.77 with cumulative traffic volumes, the project's contribution is considered a significant cumulative impact.

PROJECT-GENERATED TRAFFIC VOLUMES

Trip Generation

Trip generation estimates were developed for the residential units based on the average rates presented in the Institute of Transportation Engineers (ITE) Trip Generation Report (7th Edition)[1] for Residential Condominiums/Townhouses (Land Use #230). In order to verify the condominium rates presented in the ITE manual, ATE conducted trip generation studies at various condominium complexes throughout the Santa Barbara area. The results of the trip generation studies are included in the Technical Appendix for reference. These studies confirm that the ITE Condominium rates are appropriate for projects in the Santa Barbara area.

Average daily, A.M., and P.M. peak hour trip generation estimates for the commercial land uses of the project were determined by using the ITE 7th Edition equation rates for Specialty Retail (Land Use #814). Because no A.M. peak data is available in the ITE Trip Generation manual, 3% of the average daily rate was assumed per the San Diego Association of Governments (SANDAG) Traffic Generators manual[2]. A 10% factor was also applied to the commercial uses to account for pass-by trips made to the site, based on data presented in the SANDAG manual. It is noted that the 216 GSF of commercial space located in the Deed-Restricted (owner-occupant use only) unit, was included in the commercial trip generation analysis to assume a "worst-case" scenario. Table 2 presents the trip generation estimates developed for the project.

---

[1] Trip Generation, Institute of Transportation Engineers, 7th Edition, 2003.

[2] San Diego Traffic Generators, San Diego Association of Governments, 2002.

Table 2
Project Trip Generation Estimates

Land Use	Size	Pass-By Factor	ADT		A.M. Peak		P.M. Peak	
			Rate	Trips	Rate	Trips	Rate	Trips
Condominiums	8 Units	-	5.86	47	0.44	4	0.52	4
Commercial	3,224 GSF	10 %	46.55	143	1.40	4	4.55	13
Total				**190**		**8**		**17**

Table 2 shows that the proposed project would generate 190 ADT, 8 A.M. peak hour trips, and 17 P.M. peak hour trips. It is important to note that this analysis assumes no credit for the service station that previously occupied the site. The following section provides a comparison of the trip generation for the proposed and previous land uses.

Trip Generation Comparison - Previous Gas Station

Table 3 provides a comparison of the trip generation estimates for the proposed mixed-use project with the previous service station land use.

Table 3
Trip Generation Comparison

Land Use	Size	Pass-By Rate	ADT		A.M. Peak		P.M. Peak	
			Rate	Trips	Rate	Trips	Rate	Trips
Chevron Service Station	4 Fueling Stations	42%	168.56	283	12.07	20	13.86	23
803 Milpas Mixed-Use	-	10%	-	190	-	8	-	17
Net Change				**-93**		**-12**		**-6**

The data presented in Table 3 show that the previous gas station generated 93 more average daily trips, 12 more A.M. peak hour trips, and 6 more P.M. peak hour trips than the proposed mixed-use project. It is again noted that this traffic study evaluates the proposed mixed-use project with no credits assumed for the service station.

Trip Distribution

The A.M. and P.M. peak hour trips generated by the project were distributed onto the study-area street network based on the percentages shown in Table 4 and on Figure 4. Trip distribution percentages were developed based on existing traffic patterns and were reviewedby City staff. The distribution and impact analysis is based on the City's practice of following 5 vehicle trips or more through adjacent intersections. This provides a statistical certainty for project-generated traffic additions at critical intersections on a day-to-day basis.

Table 4
Project Trip Distribution Percentages

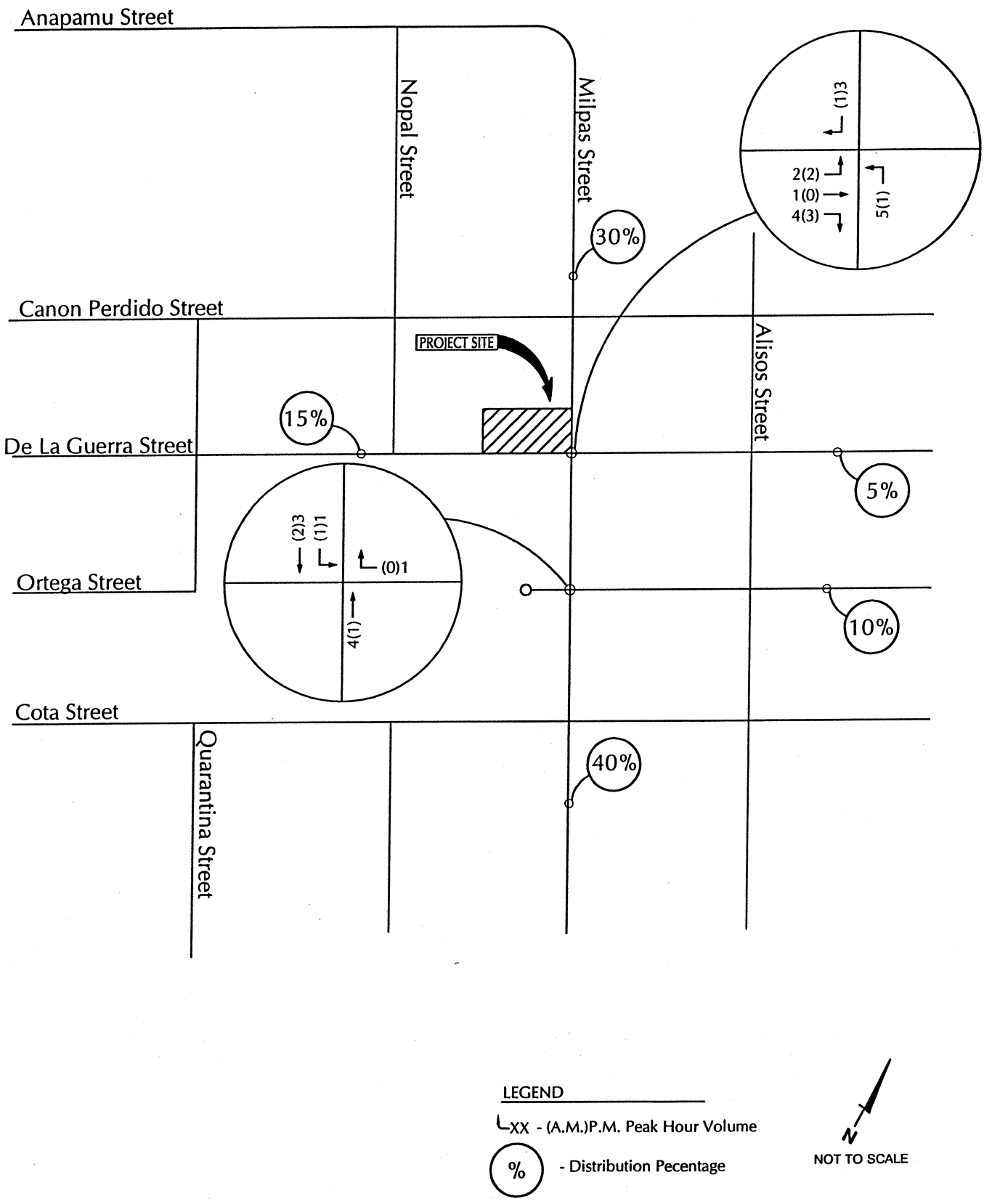
Origin/Destination	Direction	Percentage
Milpas Street	North	30%
Milpas Street	South	40%
De La Guerra Street	East	5%
De La Guerra Street	West	15%
Ortega Street	East	10%
TOTAL		**100%**

Once distributed, project-generated traffic was assigned to the study-area street system. Figure 4 shows the project peak hour traffic assignment. Figure 5 shows the Existing + Project traffic volumes.

PROJECT-SPECIFIC IMPACTS

Intersection Operations

Levels of service for the study-area intersections were re-calculated with the project added traffic. Tables 5 and 6 compare the Existing and Existing + Project levels of service and identify project-specific impacts.



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PROJECT TRIP DISTRIBUTION AND ASSIGNMENTS

FIGURE 4

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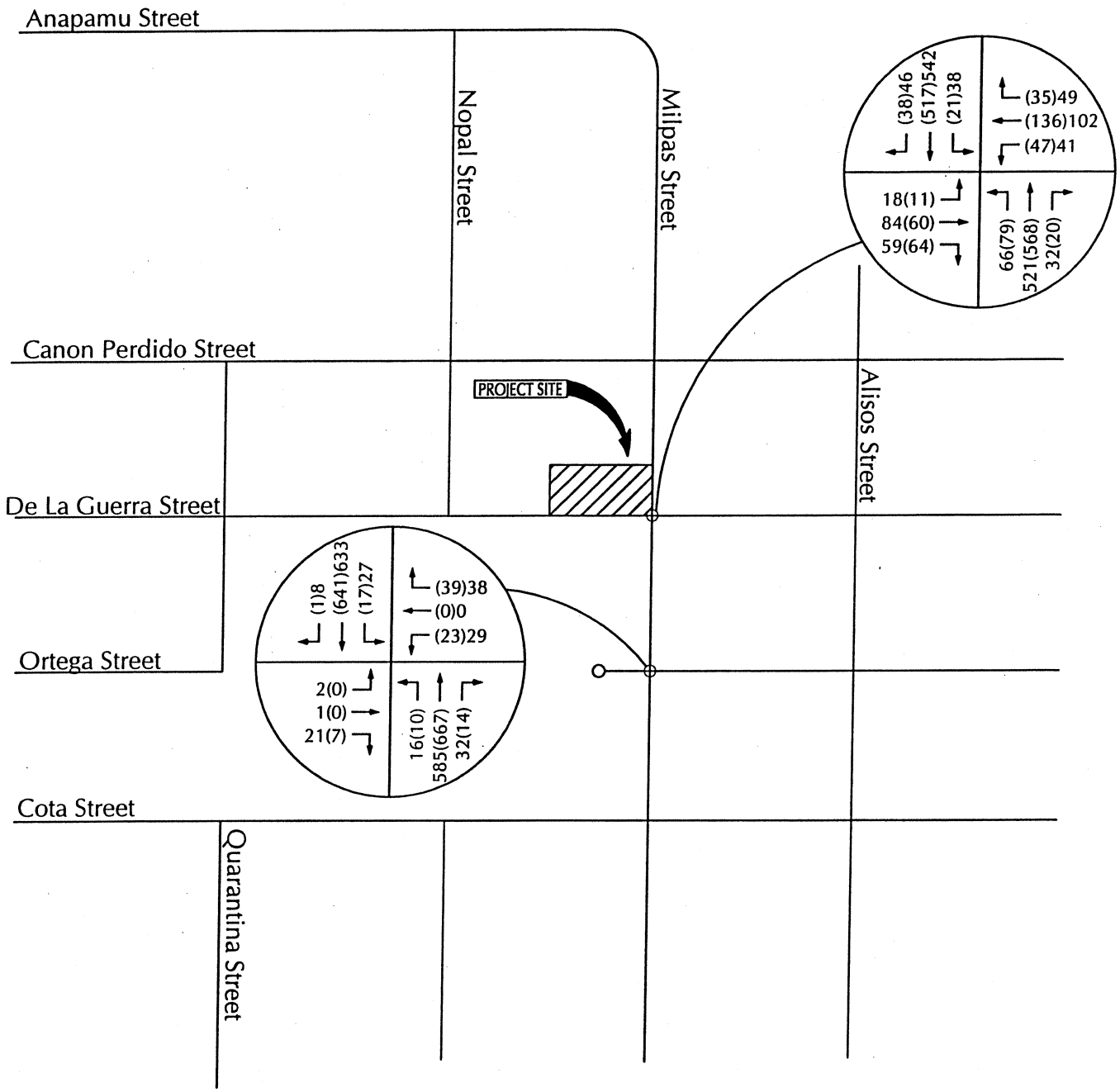

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EXISTING + PROJECT PEAK HOUR TRAFFIC VOLUMES

FIGURE 5

MMF - #07030

Table 5
Existing + Project A.M. Peak Hour Levels of Service

Intersection	Existing		Existing + Project		Impact?
	ICU	LOS	ICU	LOS	
Milpas Street / De La Guerra Street	0.49	A	0.49	A	No
Milpas Street / Ortega Street	15.1 sec.	C	15.2 sec.	C	No

Table 6
Existing + Project P.M. Peak Hour Levels of Service

Intersection	Existing		Existing + Project		Impact?
	ICU	LOS	ICU	LOS	
Milpas Street / De La Guerra Street	0.48	A	0.48	A	No
Milpas Street / Ortega Street	14.7 sec.	B	14.8 sec.	B	No

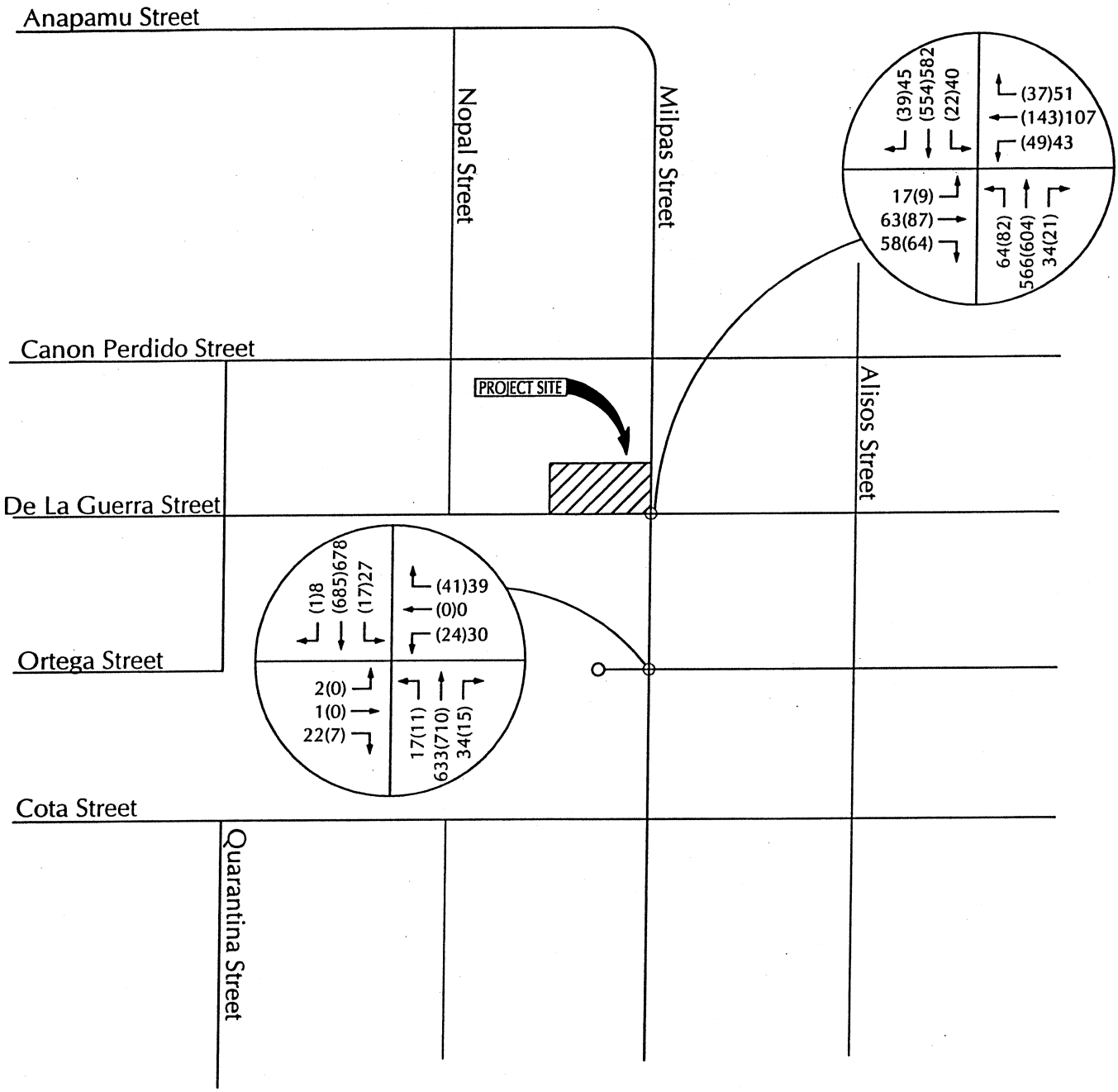
Tables 5 and 6 indicate that with the addition of project traffic, the study-area intersections would continue to operate within the City's acceptable operating standards for signalized and unsignalized intersections during the A.M. and P.M. peak periods. Therefore, it is determined that the project would not have a significant project-specific impact on the study-area intersections based on the City's threshold.

CUMULATIVE IMPACTS

Cumulative Traffic Volumes

Cumulative traffic volume forecasts were developed based on lists of approved and pending projects provided by the City. The applicant has indicated that the project is expected to be occupied in 2009. A background growth rate of 0.05% per year from 2007 to 2009 was also used to account for traffic generated by pending projects in the region but not close to the study-area.

Trip generation estimates for the approved and pending projects were developed using rates presented in the ITE Trip Generation Manual (worksheets showing the cumulative trip generation estimates are in the Technical Appendix). Figure 6 shows the Cumulative traffic volumes, and Figure 7 shows the Cumulative + Project P.M. peak hour traffic volumes.



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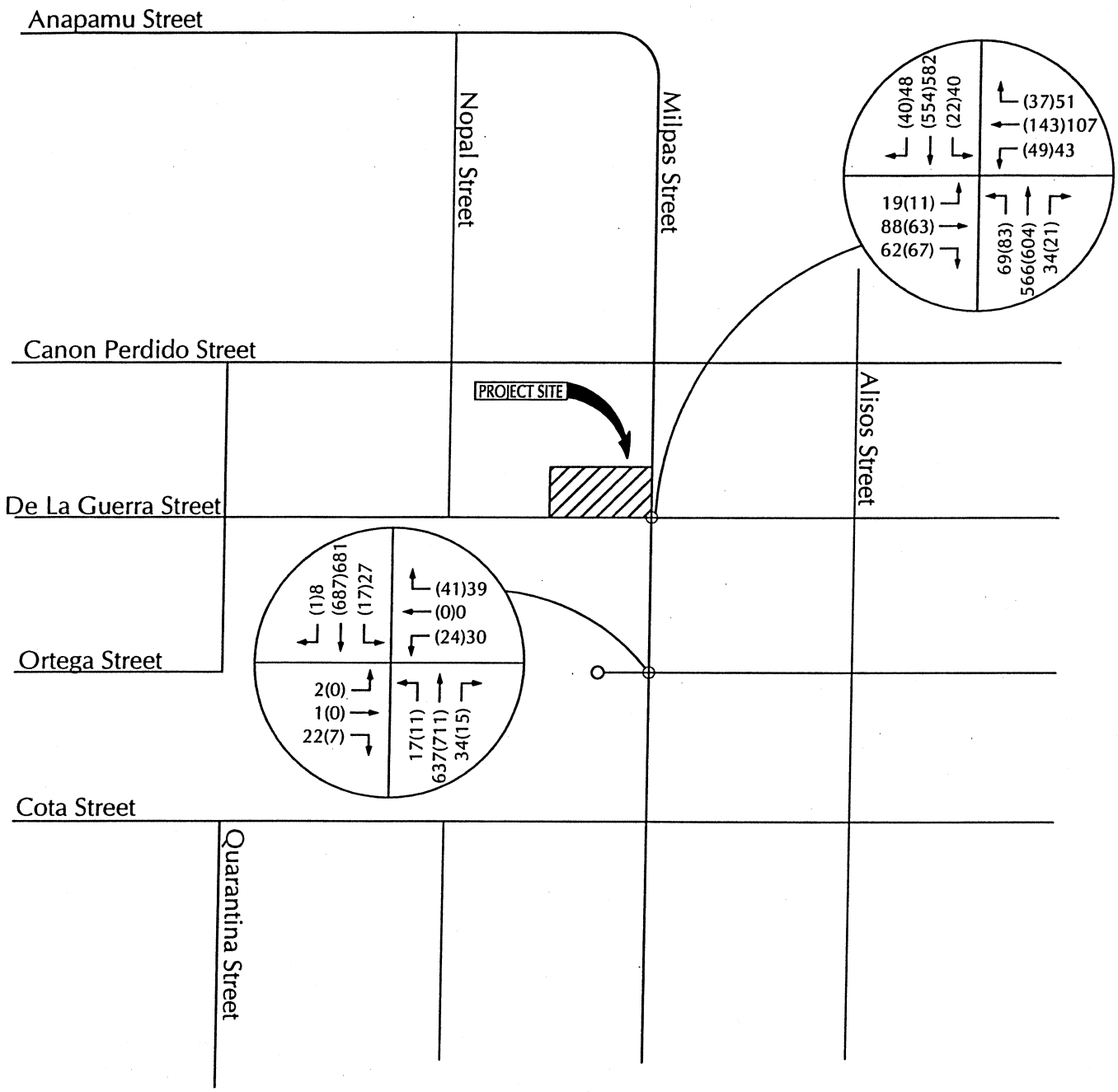
CUMULATIVE PEAK HOUR TRAFFIC VOLUMES

FIGURE 6

MMF - #07030



LEGEND

└XX - (A.M.)P.M. Peak Hour Volume

N

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CUMULATIVE + PROJECT PEAK HOUR TRAFFIC VOLUMES

FIGURE 7

MMF - #07030

Intersection Impacts

Levels of service for the study-area intersections were recalculated with the cumulative volumes. Tables 7 and 8 compare the Cumulative and the Cumulative + Project levels of service for the study-area intersections and identifies cumulative impacts.

Table 7
Cumulative and Cumulative + Project A.M. Peak Hour
Levels of Service

Intersection	Cumulative		Cumulative + Project		Impact?
	ICU	LOS	ICU	LOS	
Milpas Street / De La Guerra Street	0.51	A	0.51	A	No
Milpas Street / Ortega Street	16.4 Sec	C	16.4 Sec.	C	No

Table 8
Cumulative and Cumulative + Project P.M. Peak Hour
Levels of Service

Intersection	Cumulative		Cumulative + Project		Impact?
	ICU	LOS	ICU	LOS	
Milpas Street / De La Guerra Street	0.50	A	0.51	A	No
Milpas Street / Ortega Street	16.1 Sec.	C	16.2 Sec.	C	No

The data presented in Tables 7 and 8 show that the study-area intersections would continue to operate within the City's acceptable operating standards with Cumulative + Project volumes. Therefore, the project would not contribute to significant cumulative impacts at the study-area intersections based on the City's cumulative threshold.

SITE ACCESS AND CIRCULATION

Site Access

Access to the proposed mixed-use project would be provided by a single driveway on De La Guerra Street. This driveway would be the only access for vehicles entering and exiting the site. It is determined that the project driveway will operate at LOS B during both the A.M. and P.M.

peak hours. Driveway level of service calculation worksheets and a figure illustrating peak hour volumes at the driveway are contained in the Technical Appendix for reference.

Pedestrian Access

Two existing curb cuts along Milpas Street and two curb cuts along De La Guerra Street are to be removed and replaced with City-standard sidewalks to allow for pedestrian access to and from the site. The removal of the existing curb cuts will provide for less pedestrian interference with vehicles wishing to enter/exit the site, and provide improved pedestrian facilities adjacent to the site. It is noted that the existing bus stop located on De La Guerra Street is to be relocated further west down the road (towards downtown Santa Barbara). The bus stop currently serves the Line 14 bus, which provides service from downtown Santa Barbara to Montecito. There are no improvements planned for the relocated bus stop or modifications to De La Guerra street.

PARKING

The following section summarizes the parking analysis completed for the project.

Parking Supply

The project proposes to provide a total of 26 parking spaces. Parking for residents will be provided in 2-car garages for each of the 8 units, for a total of 16 parking spaces. The remaining 10 spaces will be shared between the visitors of the residential units and the patrons/employees of the commercial uses.

City Zoning Ordinance Requirements

The City's Zoning Ordinance parking ratios for condominiums and commercial land uses are summarized below. It is important to note that the City Zoning Ordinance requirements for commercial land uses are determined by net square footage (NSF).

Condominiums:	2 spaces/2- and 3-Bedroom unit 1 guest space/4 units
Commercial Land Uses:	1 space/250 NSF

Based on these ratios, the project's Zoning Ordinance requirements were calculated as shown in Table 9.

Table 9
City of Santa Barbara Zoning Ordinance Parking Requirements

Land Use	Size	City Parking Ratio	Parking Space Requirements
Condominiums Residents Visitors	8 units	2 Spaces/Unit 1 Visitor Space/4 Units	16 Spaces 2 Spaces
Commercial	2,856 NSF	1 Space/250 NSF	11 Spaces
Total Requirement	-	-	**29 Spaces**

The data presented in Table 9 show that the City Zoning Ordinance parking requirement for the Project is 29 spaces, with 16 spaces for residents, 2 spaces for visitors, and 11 spaces for patrons/employees of the commercial uses.

The 10 surface spaces would fall just short of meeting the ordinance requirement of eleven spaces for the commercial component of the project. The 16 spaces required for residents would be accommodated on-site within the eight 2-car garages that are provided to serve the residential units. The Santa Barbara Municipal Code also requires provision of two guest parking spaces to serve the residential component of the project. A parking modification for three spaces will therefore be required for the project.

Parking Demand Analysis

The actual parking demand generated by any given project may be greater than, or less than the number of spaces required by the City's Zoning Ordinance. Also, the City's Zoning Ordinance parking requirements for the individual project components are based on rates for "stand-alone" land uses. These parking ratios therefore do not consider the concept of "shared parking" that occurs in developments containing a mix of land uses.

The ITE Parking Generation[3] report and the ULI Shared Parking Manual[4] provide specific procedures for computing the parking space needs for mixed-use sites with residences and commercial uses. The first step in completing the parking analysis is to calculate the gross project parking demands for each component. For this analysis, the following parking demand rates were used:

Commercial. The average rate (50th percentile) presented in the ITE parking generation report for a Shopping Center was used for this analysis (3.02 spaces/1,000 S.F.). The rate applies to gross square-feet. It is noted that 216 SF commercial space located in the Deed Restricted

[3] Parking Generation, Institute of Transportation Engineers, 3rd Edition, 2004

[4] Shared Parking, Urban Land Institute, 2005.

(owner-occupant use only) unit was included in the peak parking demand calculations to assume a "worst case" scenario.

Condominiums. Because the project is proposing to provide 2 spaces for each of the 8 residential units, the City of Santa Barbara Zoning Ordinance requirement for residential visitors (1 space/4 Units) was used to determine the peak demand for visitors that will share the surface spaces with the commercial uses.

Table 10 shows the parking demand calculations completed for the individual project components based on the rates reviewed above.

Table 10
Peak Parking Demand Calculations For Individual Components

Land Use	Size(a)	Rate	Parking Demand
Commercial	3,224 S.F.	3.02 spaces/KSF	10 spaces
Residential Visitors	8 units	1 space/ 4units (b)	2 spaces

(a) Gross square feet of building area
(b) Demand analysis assumes that 2 parking spaces will be reserved per unit.

The concept of shared parking recognizes multi-purpose patronage (or "captive market") as well as time-of-day parking demand variances that occur for different land use types. In the case of the 803 Milpas Street Mixed-Use Project, commercial uses will experience their highest parking demands during the mid-day period and the visitation to the residential units will experience their highest demands during the evening.

The Shared Parking Model was used to determine the amount of spaces needed to share between the commercial and residential uses of the proposed project throughout the day. Time of day factors presented in the ULI Report and the ITE Parking Generation Manual were used in determining the hourly demands. Table 11 shows the results of the shared parking model (worksheets contained in the Technical Appendix for reference).

Table 11
Shared Parking Model Results

Time of Day	Retail Demand	Residential Visitor Demand	Total Demand
6:00 A.M.	0	0	0
7:00 A.M.	0	0	1
8:00 A.M.	2	0	2
9:00 A.M.	4	0	4
10:00 A.M.	5	0	6
11:00 A.M.	8	0	9
12:00 P.M.	10	0	10
1:00 P.M.	10	0	10
2:00 P.M.	9	0	9
3:00 P.M.	8	0	9
4:00 P.M.	8	0	8
5:00 P.M.	6	1	6
6:00 P.M.	7	1	8
7:00 P.M.	8	2	10
8:00 P.M.	7	2	9
9:00 P.M.	4	2	6
10:00 P.M.	1	2	3
11:00 P.M.	1	2	3
12:00 A.M.	0	1	1

Table 10 shows that peak shared parking demand for the project is 10 spaces. The 10 surface spaces proposed for the project will accommodate the shared parking demand generated by the mixed-use project. It is noted that on-street parking will be provided along Milpas Street and De la Guerra Street, adjacent to the project site, but was not included in the parking analysis.

CONGESTION MANAGEMENT PROGRAM ANALYSIS

The Santa Barbara County Association of Governments (SBCAG) has developed a set of traffic impact guidelines to assess impacts of land use decisions made by local jurisdictions on regional transportation facilities located within the Congestion Management Program (CMP)

roadway system. According to the CMP, local agencies must ensure that the scope of any traffic analysis performed for the environmental review process required under CEQA includes assessment of project-related impacts on the CMP system if total trip generation exceeds 50 peak hour or 500 daily trips. The data presented in Table 3 shows that the project is forecast to generate 190 daily trips, 8 A.M. peak hour trips, and 18 P.M. peak hour trips. Therefore the project is consistent with the CMP and no further analysis is required.

■ ■ ■

REFERENCES AND PERSONS CONTACTED

Associated Transportation Engineers

Scott A. Schell, AICP, Principal Transportation Planner
Dan Dawson, Senior Transportation Planner
Matthew Farrington, Traffic Technician II

References

Trip Generation, 7th edition, Institute of Transportation Engineers, 2003.
San Diego Traffic Generators, San Diego Association of Governments, 2002.
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Persons Contacted

Foley, Steve, City of Santa Barbara

TECHNICAL APPENDIX

CONTENTS:

LEVEL OF SERVICE DEFINITIONS

Signalized Intersection Level of Service Definitions

LOS	Delay[a]	V/C Ratio	Definition
A	< 10.0	< 0.60	Progression is extremely favorable. Most vehicles arrive during the green phase. Many vehicles do not stop at all.
B	10.1 - 20.0	0.61 - 0.70	Good progression, short cycle lengths, or both. More vehicles stop than with LOS A, causing higher levels of delay.
C	20.1 - 35.0	0.71 - 0.80	Only fair progression, longer cycle lengths, or both, result in higher cycle lengths. Cycle lengths may fail to serve queued vehicles, and overflow occurs. Number of vehicles stopped is significant, though many still pass through intersection without stopping.
D	35.1 - 55.0	0.81 - 0.90	Congestion becomes more noticeable. Unfavorable progression, long cycle lengths and high v/c ratios result in longer delays. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.
E	55.1 - 80.0	0.91 - 1.00	High delay values indicate poor progression, long cycle lengths and high v/c ratios. Individual cycle failures are frequent
F	> 80.0	> 1.00	Considered unacceptable for most drivers, this level occurs when arrival flow rates exceed the capacity of lane groups, resulting in many individual cycle failures. Poor progression and long cycle lengths may also contribute to high delay levels.

[a] Average control delay per vehicle in seconds.

Unsignalized Intersection Level of Service Definitions

The HCM[1] uses *control delay* to determine the level of service at unsignalized intersections. Control delay is the difference between the travel time actually experienced at the control device and the travel time that would occur in the absence of the traffic control device. Control delay includes deceleration from free flow speed, queue move-up time, stopped delay and acceleration back to free flow speed.

LOS	Control Delay Seconds per Vehicle
A	< 10.0
B	10.1 - 15.0
C	15.1 - 25.0
D	25.1 - 35.0
E	35.1 - 50.0
F	> 50.0

[1] Highway Capacity Manual, National Research Board, 2000

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TRAFFIC COUNT DATA

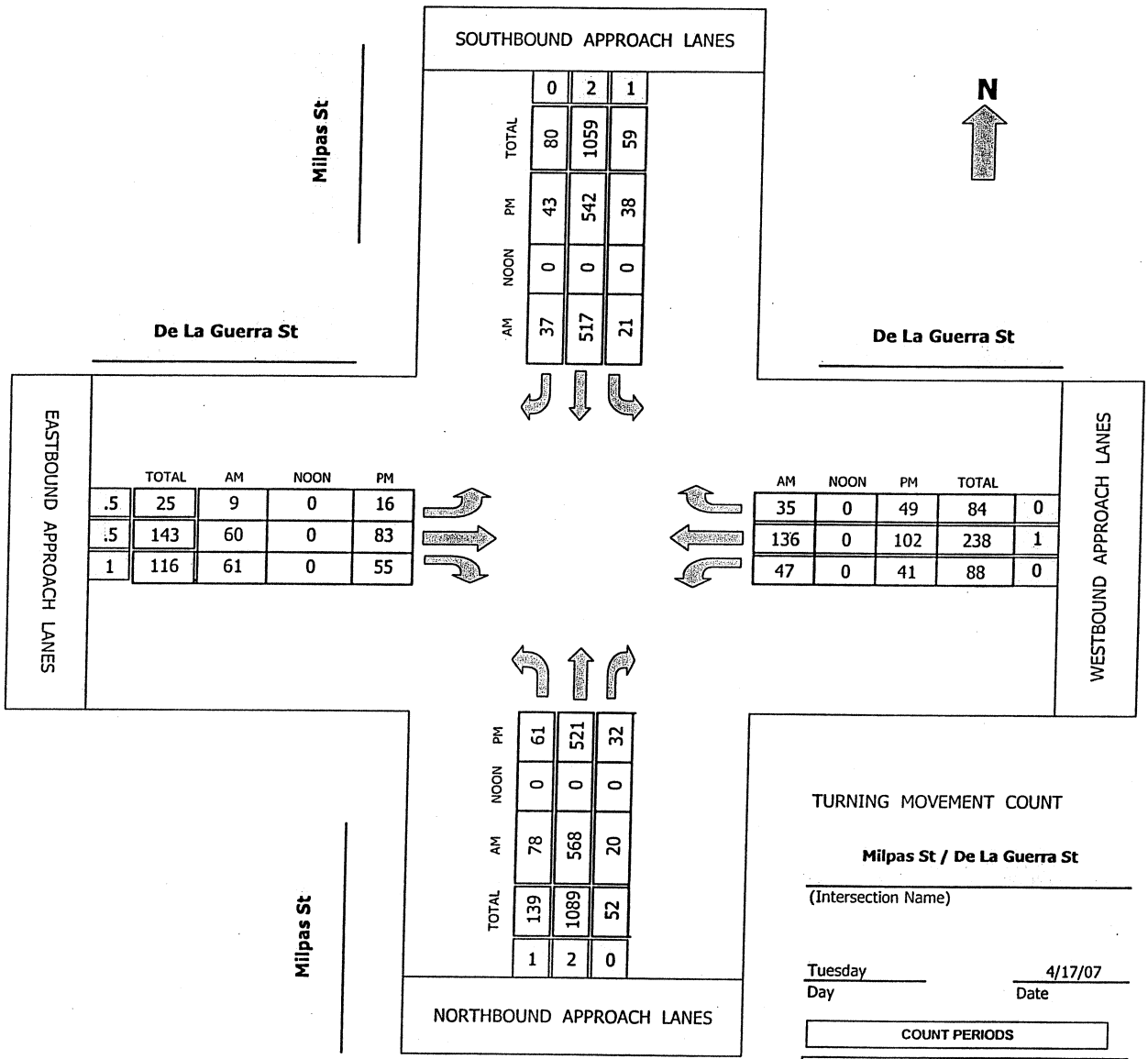
Intersection Turning Movement

Prepared by:

National Data & Surveying Services

TMC Summary of Milpas St/De La Guerra St

Project #: 07-8064-001



	0	2	1
TOTAL	80	1059	59
PM	43	542	38
NOON	0	0	0
AM	37	517	21

	TOTAL	AM	NOON	PM
.5	25	9	0	16
.5	143	60	0	83
1	116	61	0	55

AM	NOON	PM	TOTAL	
35	0	49	84	0
136	0	102	238	1
47	0	41	88	0

	61	521	32
PM			
NOON	0	0	0
AM	78	568	20
TOTAL	139	1089	52
	1	2	0

TURNING MOVEMENT COUNT

Milpas St / De La Guerra St

(Intersection Name)

Tuesday — Day

4/17/07 — Date

COUNT PERIODS		
am	7:00 AM -	9:00 AM
noon	11:00 AM -	1:00 PM
pm	4:00 PM -	6:00 PM

AM PEAK HOUR — 730 AM

NOON PEAK HOUR — 0 AM

PM PEAK HOUR — 500 PM

Intersection Turning Movement

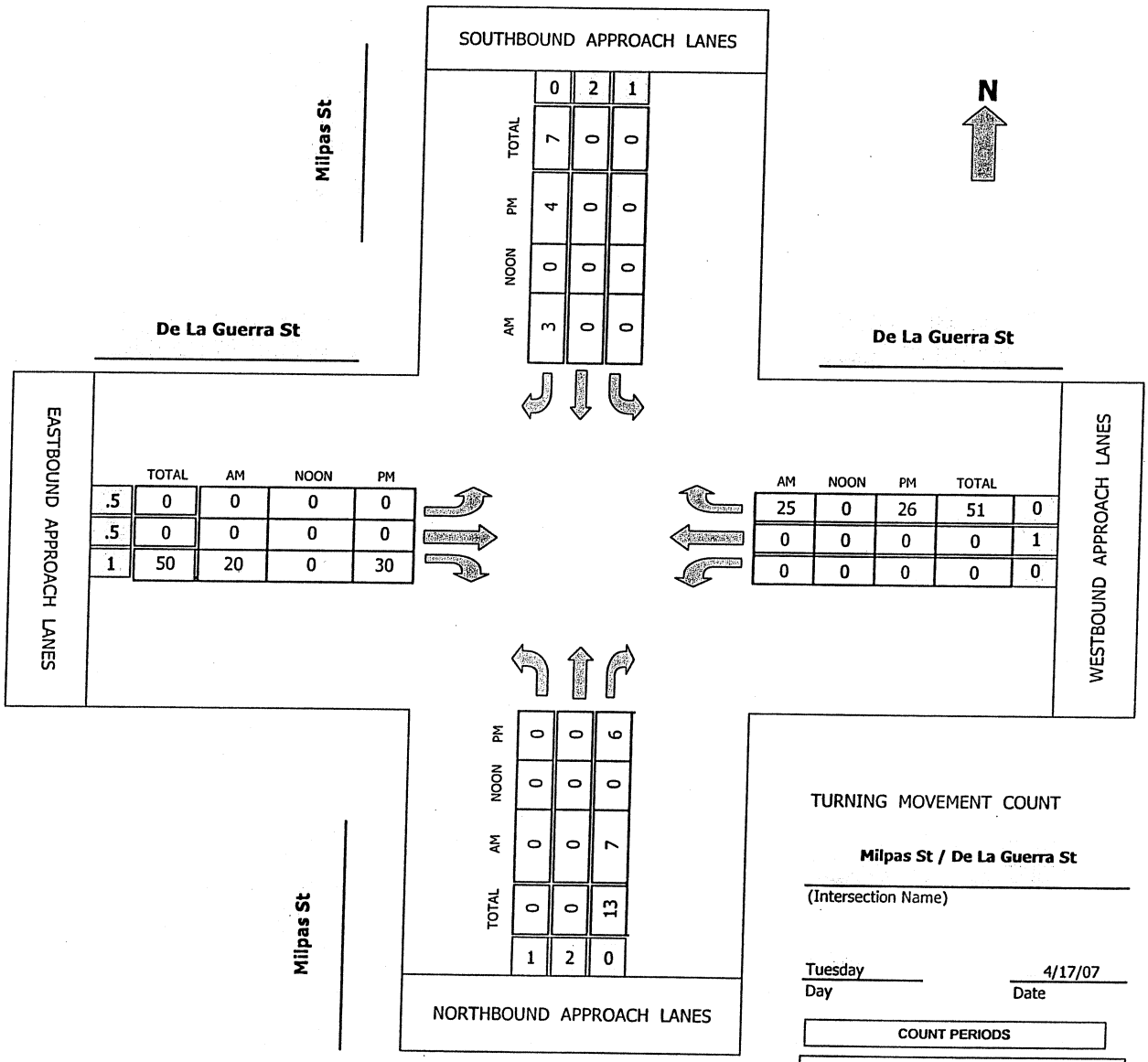
Prepared by:

National Data & Surveying Services

TMC Summary of Milpas St/De La Guerra St

Project #: 07-8064-001

Right Turns on Red



	0	2	1
TOTAL	7	0	0
PM	4	0	0
NOON	0	0	0
AM	3	0	0

	TOTAL	AM	NOON	PM
.5	0	0	0	0
.5	0	0	0	0
1	50	20	0	30

AM	NOON	PM	TOTAL	
25	0	26	51	0
0	0	0	0	1
0	0	0	0	0

PM	0	0	6
NOON	0	0	0
AM	0	0	7
TOTAL	0	0	13
	1	2	0

TURNING MOVEMENT COUNT

Milpas St / De La Guerra St

(Intersection Name)

Tuesday — Day

4/17/07 — Date

COUNT PERIODS		
am	7:00 AM -	9:00 AM
noon	11:00 AM -	1:00 PM
pm	4:00 PM -	6:00 PM

AM PEAK HOUR	730 AM
NOON PEAK HOUR	0 AM
PM PEAK HOUR	500 PM

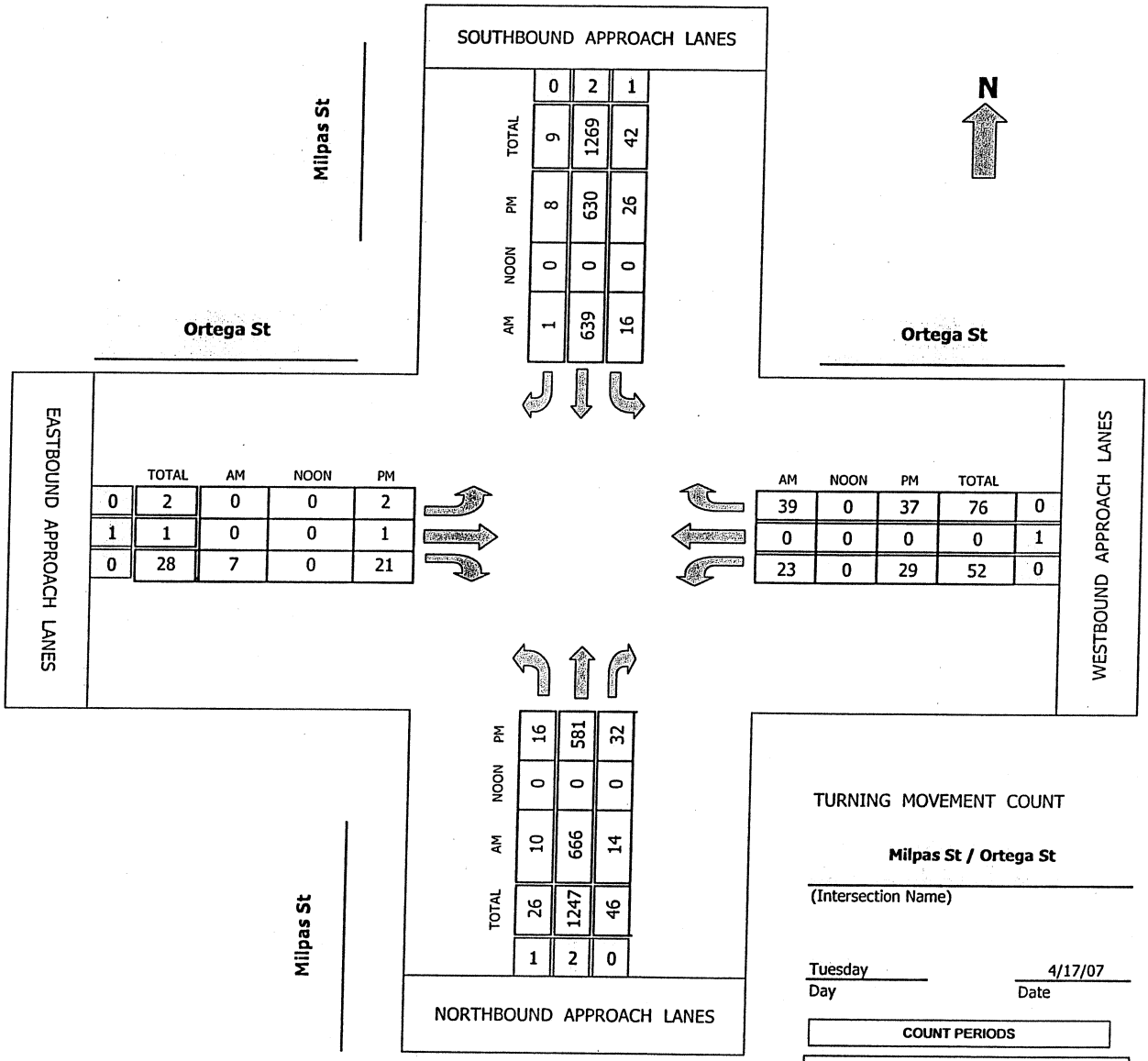
Intersection Turning Movement

Prepared by:

National Data & Surveying Services

TMC Summary of Milpas St/Ortega St

Project #: 07-8064-002



TURNING MOVEMENT COUNT

Milpas St / Ortega St

(Intersection Name)

Tuesday (Day) 4/17/07 (Date)

COUNT PERIODS		
am	7:00 AM -	9:00 AM
noon	11:00 AM -	1:00 PM
pm	4:00 PM -	6:00 PM

AM PEAK HOUR	700 AM
NOON PEAK HOUR	0 AM
PM PEAK HOUR	500 PM

INTERSECTION LEVEL OF SERVICE CALCULATION WORKSHEETS

#07030 803 MILPAS STREET MIXED-USE PROJECT **REF: EX 01AM**

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE: *4/17/07*

TIME PERIOD: *A.M. PEAK HOUR*

N/S STREET: *MILPAS STREET*

E/W STREET: *DE LA GUERRA STREET*

CONTROL TYPE: *SIGNAL*

TRAFFIC VOLUME SUMMARY

VOLUMES	NORTH BOUND L	T	R	SOUTH BOUND L	T	R	EAST BOUND L	T	R	WEST BOUND L	T	R
(A) EXISTING:	78	568	20	21	517	37	9	60	61	47	136	35
(B) PROJECT-ADDED	1	0	0	0	0	1	2	0	3	0	0	0
(C) SHORT-TERM CUM	82	604	21	22	554	39	9	63	64	49	143	37

GEOMETRICS

LANE GEOMETRICS	NORTH BOUND	SOUTH BOUND	EAST BOUND	WEST BOUND
	L T TR	L T TR	TL R	LTR

TRAFFIC SCENARIOS

SCENARIO 1 = EXISTING VOLUMES (A)
SCENARIO 2 = EXISTING + PROJECT VOLUMES(A + B)
SCENARIO 3 = SHORT-TERM CUMULATIVE (C)
SCENARIO 4 = SHORT-TERM CUMULATIVE + PROJECT VOLUMES (B + C)

LEVEL OF SERVICE CALCULATIONS

MOVEMENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES 1	2	3	4	SCENARIO V/C RATIOS 1	2	3	4
NBL	1	1600	78	79	82	83	0.049 *	0.049 *	0.051 *	0.052 *
NBT	2	3200	568	568	604	604	0.182	0.182	0.193	0.193
NBR *(a)*	0	0	13	13	14	14	-	-	-	-
SBL	1	1600	21	21	22	22	0.013	0.013	0.014	0.014
SBT	2	3200	517	517	554	554	0.172 *	0.173 *	0.184 *	0.185 *
SBR *(b)*	0	0	34	35	36	37	-	-	-	-
EBL	0	0	9	11	9	11	-	-	-	-
EBT	1	1600	60	60	63	63	0.043 *	0.044 *	0.045 *	0.046 *
EBR *(c)*	1	1600	41	43	43	45	0.026	0.027	0.027	0.028
WBL	0	0	47	47	49	49	-	-	-	-
WBT	1	1600	136	136	143	143	0.121 *	0.121 *	0.127 *	0.127 *
WBR *(d)*	0	0	10	10	11	11	-	-	-	-
			LOST TIME:				0.100 *	0.100 *	0.100 *	0.100 *
			TOTAL INTERSECTION CAPACITY UTILIZATION:				**0.485**	**0.487**	**0.507**	**0.510**
			SCENARIO LEVEL OF SERVICE:				**A**	**A**	**A**	**A**

NOTES:

RTOR: *(a) 35%*
(b) 8%
(c) 33%
(d) 71%

Printed: 05/10/07

#07030 803 MILPAS STREET MIXED-USE PROJECT **REF: EX 01PM**

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE: ***4/17/07***

TIME PERIOD: ***P.M. PEAK HOUR***

N/S STREET: ***MILPAS STREET***

E/W STREET: ***DE LA GUERRA STREET***

CONTROL TYPE: ***SIGNAL***

TRAFFIC VOLUME SUMMARY

VOLUMES	NORTH BOUND L	T	R	SOUTH BOUND L	T	R	EAST BOUND L	T	R	WEST BOUND L	T	R
(A) EXISTING:	**61**	**521**	**32**	**38**	**542**	**43**	**16**	**83**	**55**	**41**	**102**	**49**
(B) PROJECT-ADDED	**5**	**0**	**0**	**0**	**0**	**3**	**2**	**1**	**4**	**0**	**0**	**0**
(C) SHORT-TERM CUM	**64**	**566**	**34**	**40**	**582**	**45**	**17**	**87**	**58**	**43**	**107**	**51**

GEOMETRICS

LANE GEOMETRICS	NORTH BOUND	SOUTH BOUND	EAST BOUND	WEST BOUND
	L T TR	L T TR	TL R	LTR

TRAFFIC SCENARIOS

SCENARIO 1 = EXISTING VOLUMES (A)
SCENARIO 2 = EXISTING + PROJECT VOLUMES(A+B)
SCENARIO 3 = SHORT-TERM CUMULATIVE (C)
SCENARIO 4 = SHORT-TERM CUMULATIVE + PROJECT VOLUMES (B+C)

LEVEL OF SERVICE CALCULATIONS

MOVE-MENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES 1	2	3	4	SCENARIO V/C RATIOS 1	2	3	4
NBL	1	1600	61	66	64	69	0.038 *	0.041 *	0.040 *	0.043 *
NBT	2	3200	521	521	566	566	0.169	0.169	0.184	0.184
NBR *(a)*	0	0	21	21	22	22	-	-	-	-
SBL	1	1600	38	38	40	40	0.024	0.024	0.025	0.025
SBT	2	3200	542	542	582	582	0.182 *	0.183 *	0.195 *	0.196 *
SBR *(b)*	0	0	40	42	41	44	-	-	-	-
EBL	0	0	16	18	17	19	-	-	-	-
EBT	1	1600	83	84	87	88	0.062 *	0.064 *	0.065 *	0.067 *
EBR *(c)*	1	1600	37	40	39	42	0.023	0.025	0.024	0.026
WBL	0	0	41	41	43	43	-	-	-	-
WBT	1	1600	102	102	107	107	0.098 *	0.098 *	0.103 *	0.103 *
WBR *(d)*	0	0	14	14	15	15	-	-	-	-
			LOST TIME:				0.100 *	0.100 *	0.100 *	0.100 *
			TOTAL INTERSECTION CAPACITY UTILIZATION:				**0.480**	**0.486**	**0.503**	**0.509**
			SCENARIO LEVEL OF SERVICE:				**A**	**A**	**A**	**A**

NOTES:

RTOR: *(a) 35%*
(b) 8%
(c) 33%
(d) 71%

Printed: 06/07/07

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*MMF*	Intersection	*02AM_EX*
Agency/Co.	*ATE*	Jurisdiction	*SANTA BARBARA*
Date Performed	*4/17/2007*	Analysis Year	*EXISTING*
Analysis Time Period	*A.M. PEAK HOUR*		

Project Description	*803 MILPAS MIXED-USE PROJECT #07030*
East/West Street: *ORTEGA STREET*	North/South Street: *MILPAS STREET*
Intersection Orientation: *North-South*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*10*	*666*	*14*	*16*	*639*	*1*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*10*	*666*	*14*	*16*	*639*	*1*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*1*	*2*	*0*	*1*	*2*	*0*
Configuration	*L*	*T*	*TR*	*L*	*T*	*TR*
Upstream Signal		*0*			*0*	

Minor Street	Eastbound			Westbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*0*	*0*	*7*	*23*	*0*	*39*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*7*	*23*	*0*	*39*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration		*LTR*			*LTR*	

Delay, Queue Length, and Level of Service

Approach	Northbound	Southbound	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*L*	*L*		*LTR*			*LTR*	
v (veh/h)	*10*	*16*		*62*			*7*	
C (m) (veh/h)	*954*	*922*		*332*			*682*	
v/c	*0.01*	*0.02*		*0.19*			*0.01*	
95% queue length	*0.03*	*0.05*		*0.68*			*0.03*	
Control Delay (s/veh)	*8.8*	*9.0*		*18.3*			*10.3*	
LOS	*A*	*A*		*C*			*B*	
Approach Delay (s/veh)	--	--	*18.3*			*10.3*		
Approach LOS	--	--	*C*			*B*		

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AWD = 15.1 LOS C

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*MMF*	Intersection	*02AM_EX+PROJ*
Agency/Co.	*ATE*	Jurisdiction	*SANTA BARBARA*
Date Performed	*4/17/2007*	Analysis Year	*EXISTING+PROJECT*
Analysis Time Period	*A.M. PEAK HOUR*		

Project Description *803 MILPAS MIXED-USE PROJECT #07030*

East/West Street: *ORTEGA STREET* | North/South Street: *MILPAS STREET*

Intersection Orientation: *North-South* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*10*	*667*	*14*	*16*	*641*	*1*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*10*	*667*	*14*	*16*	*641*	*1*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*1*	*2*	*0*	*1*	*2*	*0*
Configuration	*L*	*T*	*TR*	*L*	*T*	*TR*
Upstream Signal		*0*			*0*	

Minor Street	Eastbound			Westbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*0*	*0*	*7*	*23*	*0*	*39*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*7*	*23*	*0*	*39*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration		*LTR*			*LTR*	

Delay, Queue Length, and Level of Service

Approach	Northbound	Southbound	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*L*	*L*		*LTR*			*LTR*	
v (veh/h)	*10*	*16*		*62*			*7*	
C (m) (veh/h)	*952*	*921*		*331*			*681*	
v/c	*0.01*	*0.02*		*0.19*			*0.01*	
95% queue length	*0.03*	*0.05*		*0.68*			*0.03*	
Control Delay (s/veh)	*8.8*	*9.0*		*18.4*			*10.3*	
LOS	*A*	*A*		*C*			*B*	
Approach Delay (s/veh)	--	--	*18.4*			*10.3*		
Approach LOS	--	--	*C*			*B*		

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AWD = 15.2 LOS C

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	MMF	Intersection	02PM_EX
Agency/Co.	ATE	Jurisdiction	SANTA BARBARA
Date Performed	4/17/2007	Analysis Year	EXISTING
Analysis Time Period	P.M. PEAK HOUR		

Project Description	803 MILPAS MIXED-USE PROJECT #07030
East/West Street:	ORTEGA STREET
North/South Street:	MILPAS STREET
Intersection Orientation:	North-South
Study Period (hrs):	0.25

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	16	581	32	26	630	8
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	16	581	32	26	630	8
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	1	2	0	1	2	0
Configuration	L	T	TR	L	T	TR
Upstream Signal		0			0	

Minor Street	Eastbound			Westbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	2	1	21	29	0	37
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	2	1	21	29	0	37
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	Northbound	Southbound	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L	L		LTR			LTR	
v (veh/h)	16	26		66			24	
C (m) (veh/h)	956	976		317			495	
v/c	0.02	0.03		0.21			0.05	
95% queue length	0.05	0.08		0.77			0.15	
Control Delay (s/veh)	8.8	8.8		19.3			12.6	
LOS	A	A		C			B	
Approach Delay (s/veh)	--	--	19.3			12.6		
Approach LOS	--	--	C			B		

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AWD = 14.7 LOS B

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*MMF*	Intersection	*02PM_EX+PROJ*
Agency/Co.	*ATE*	Jurisdiction	*SANTA BARBARA*
Date Performed	*4/17/2007*	Analysis Year	*EXISTING + Project*
Analysis Time Period	*P.M. PEAK HOUR*		

Project Description	*803 MILPAS MIXED-USE PROJECT #07030*
East/West Street: *ORTEGA STREET*	North/South Street: *MILPAS STREET*
Intersection Orientation: *North-South*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*16*	*585*	*32*	*27*	*633*	*8*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*16*	*585*	*32*	*27*	*633*	*8*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*1*	*2*	*0*	*1*	*2*	*0*
Configuration	*L*	*T*	*TR*	*L*	*T*	*TR*
Upstream Signal		*0*			*0*	

Minor Street	Eastbound			Westbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*2*	*1*	*21*	*29*	*0*	*38*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*2*	*1*	*21*	*29*	*0*	*38*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration		*LTR*			*LTR*	

Delay, Queue Length, and Level of Service

Approach	Northbound	Southbound	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*L*	*L*		*LTR*			*LTR*	
v (veh/h)	*16*	*27*		*67*			*24*	
C (m) (veh/h)	*953*	*973*		*317*			*491*	
v/c	*0.02*	*0.03*		*0.21*			*0.05*	
95% queue length	*0.05*	*0.09*		*0.78*			*0.15*	
Control Delay (s/veh)	*8.8*	*8.8*		*19.4*			*12.7*	
LOS	*A*	*A*		*C*			*B*	
Approach Delay (s/veh)	--	--	*19.4*			*12.7*		
Approach LOS	--	--	*C*			*B*		

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AWD = 14.8 LOS B

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*MMF*	Intersection	*02AM_CUM*
Agency/Co.	*ATE*	Jurisdiction	*SANTA BARBARA*
Date Performed	*4/17/2007*	Analysis Year	*CUMULATIVE*
Analysis Time Period	*A.M. PEAK HOUR*		

Project Description	*803 MILPAS MIXED-USE PROJECT #07030*
East/West Street: *ORTEGA STREET*	North/South Street: *MILPAS STREET*
Intersection Orientation: *North-South*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*11*	*710*	*15*	*17*	*685*	*1*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*11*	*710*	*15*	*17*	*685*	*1*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*1*	*2*	*0*	*1*	*2*	*0*
Configuration	*L*	*T*	*TR*	*L*	*T*	*TR*
Upstream Signal		*0*			*0*	

Minor Street	Eastbound			Westbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*0*	*0*	*7*	*24*	*0*	*41*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*7*	*24*	*0*	*41*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)	*0*			*0*		
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration		*LTR*			*LTR*	

Delay, Queue Length, and Level of Service

Approach	Northbound	Southbound	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*L*	*L*		*LTR*			*LTR*	
v (veh/h)	*11*	*17*		*65*			*7*	
C (m) (veh/h)	*917*	*887*		*302*			*659*	
v/c	*0.01*	*0.02*		*0.22*			*0.01*	
95% queue length	*0.04*	*0.06*		*0.80*			*0.03*	
Control Delay (s/veh)	*9.0*	*9.1*		*20.2*			*10.5*	
LOS	*A*	*A*		*C*			*B*	
Approach Delay (s/veh)	--	--	*20.2*			*10.5*		
Approach LOS	--	--	*C*			*B*		

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AWD = 16.4 LOS C

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*MMF*	Intersection	*02PM_CUM*
Agency/Co.	*ATE*	Jurisdiction	*SANTA BARBARA*
Date Performed	*4/17/2007*	Analysis Year	*CUMULATIVE*
Analysis Time Period	*P.M. PEAK HOUR*		

Project Description	*803 MILPAS MIXED-USE PROJECT #07030*
East/West Street: *ORTEGA STREET*	North/South Street: *MILPAS STREET*
Intersection Orientation: *North-South*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*17*	*633*	*34*	*27*	*678*	*8*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*17*	*633*	*34*	*27*	*678*	*8*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*1*	*2*	*0*	*1*	*2*	*0*
Configuration	*L*	*T*	*TR*	*L*	*T*	*TR*
Upstream Signal		*0*			*0*	

Minor Street	Eastbound			Westbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*2*	*1*	*22*	*30*	*0*	*39*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*2*	*1*	*22*	*30*	*0*	*39*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration		*LTR*			*LTR*	

Delay, Queue Length, and Level of Service

Approach	Northbound	Southbound	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*L*	*L*		*LTR*			*LTR*	
v (veh/h)	*17*	*27*		*69*			*25*	
C (m) (veh/h)	*917*	*932*		*285*			*464*	
v/c	*0.02*	*0.03*		*0.24*			*0.05*	
95% queue length	*0.06*	*0.09*		*0.93*			*0.17*	
Control Delay (s/veh)	*9.0*	*9.0*		*21.6*			*13.2*	
LOS	*A*	*A*		*C*			*B*	
Approach Delay (s/veh)	--	--	*21.6*			*13.2*		
Approach LOS	--	--	*C*			*B*		

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AWD = 16.1 LOS C

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*MMF*	Intersection	*02AM_CUM+PROJ*
Agency/Co.	*ATE*	Jurisdiction	*SANTA BARBARA*
Date Performed	*4/17/2007*	Analysis Year	*CUMULATIVE+PROJECT*
Analysis Time Period	*A.M. PEAK HOUR*		

Project Description	*803 MILPAS MIXED-USE PROJECT #07030*
East/West Street: *ORTEGA STREET*	North/South Street: *MILPAS STREET*
Intersection Orientation: *North-South*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*11*	*711*	*15*	*17*	*687*	*1*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*11*	*711*	*15*	*17*	*687*	*1*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*1*	*2*	*0*	*1*	*2*	*0*
Configuration	*L*	*T*	*TR*	*L*	*T*	*TR*
Upstream Signal		*0*			*0*	

Minor Street	Eastbound			Westbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*0*	*0*	*7*	*24*	*0*	*41*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*7*	*24*	*0*	*41*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration		*LTR*			*LTR*	

Delay, Queue Length, and Level of Service

Approach	Northbound	Southbound	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*L*	*L*		*LTR*			*LTR*	
v (veh/h)	*11*	*17*		*65*			*7*	
C (m) (veh/h)	*916*	*886*		*302*			*658*	
v/c	*0.01*	*0.02*		*0.22*			*0.01*	
95% queue length	*0.04*	*0.06*		*0.80*			*0.03*	
Control Delay (s/veh)	*9.0*	*9.1*		*20.2*			*10.5*	
LOS	*A*	*A*		*C*			*B*	
Approach Delay (s/veh)	--	--	*20.2*			*10.5*		
Approach LOS	--	--	*C*			*B*		

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AWD = 16.4

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*MMF*	Intersection	*02PM_CUM+PROJ*
Agency/Co.	*ATE*	Jurisdiction	*SANTA BARBARA*
Date Performed	*4/17/2007*	Analysis Year	*CUMULATIVE+PROJECT*
Analysis Time Period	*P.M. PEAK HOUR*		

Project Description	*803 MILPAS MIXED-USE PROJECT #07030*
East/West Street: *ORTEGA STREET*	North/South Street: *MILPAS STREET*
Intersection Orientation: *North-South*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*17*	*637*	*34*	*28*	*681*	*8*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*17*	*637*	*34*	*28*	*681*	*8*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*1*	*2*	*0*	*1*	*2*	*0*
Configuration	*L*	*T*	*TR*	*L*	*T*	*TR*
Upstream Signal		*0*			*0*	

Minor Street	Eastbound			Westbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*2*	*1*	*22*	*30*	*0*	*40*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*2*	*1*	*22*	*30*	*0*	*40*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration		*LTR*			*LTR*	

Delay, Queue Length, and Level of Service

Approach	Northbound	Southbound	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*L*	*L*		*LTR*			*LTR*	
v (veh/h)	*17*	*28*		*70*			*25*	
C (m) (veh/h)	*915*	*929*		*284*			*461*	
v/c	*0.02*	*0.03*		*0.25*			*0.05*	
95% queue length	*0.06*	*0.09*		*0.95*			*0.17*	
Control Delay (s/veh)	*9.0*	*9.0*		*21.8*			*13.3*	
LOS	*A*	*A*		*C*			*B*	
Approach Delay (s/veh)	--	--	*21.8*			*13.3*		
Approach LOS	--	--	*C*			*B*		

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AWD = 16.2 LOS C

ATE CONDOMINIUM TRIP GENERATION STUDIES

3663 & 3705 San Remo P.M. Peak Hour 09/01/05
Total of 51 units

	Driveway		Street Parking		Total
	IN	OUT	IN	OUT	
4:15-4:30	1	1	2	2	**6**
4:30-4:45	6	1	1	0	**8**
4:45-5:00	2	2	1	0	**5**
5:00-5:15	0	1	1	2	**4**
5:15-5:30	8	1	0	0	**9**
5:30-5:45	6	3	3	0	**12**
Hourly Totals					
4:15-5:15	9	5	5	4	**23**
4:30-5:30	16	5	3	2	**26**
4:45-5:45	16	7	5	2	**30**
Peak Hour					
4:45-5:45	16	7	5	2	**30**

Trip Generation Rate Calculation
30 Peak Hour Trips/51 units = **0.59 trips/unit**
21 in/9 out = **70%/30%**

Villa Del Mar P.M. Peak Hour 9/26/06
Total of 40 units

	Driveway		Street Parking		Total
	IN	OUT	IN	OUT	
4:15-4:30	2	2	0	0	**4**
4:30-4:45	1	0	0	0	**1**
4:45-5:00	4	3	0	0	**7**
5:00-5:15	2	1	0	0	**3**
5:15-5:30	1	1	0	0	**2**
5:30-5:45	1	0	0	0	**1**
Hourly Totals					
4:15-5:15	9	6	0	0	**15**
4:30-5:30	8	5	0	0	**13**
4:45-5:45	8	5	0	0	**13**
Peak Hour					
4:15-5:15	9	6	0	0	**15**

Trip Generation Rate Calculation
15 Peak Hour Trips/40 units = **0.38 trips/unit**
9 in/6 out = **60%/40%**

Stonecreek P.M. Peak Hour 09/22/05
Total of 105 units

	Driveway		Street Parking		Total
	IN	OUT	IN	OUT	
4:15-4:30	8	8	0	0	**16**
4:30-4:45	9	4	0	0	**13**
4:45-5:00	9	8	0	0	**17**
5:00-5:15	5	4	0	0	**9**
5:15-5:30	15	5	0	0	**20**
5:30-5:45	14	7	0	0	**21**
Hourly Totals					
4:15-5:15	31	24	0	0	**55**
4:30-5:30	38	21	0	0	**59**
4:45-5:45	43	24	0	0	**67**
Peak Hour					
4:45-5:45	16	24	0	0	**67**

Trip Generation Rate Calculation
67 Peak Hour Trips/105 units = **0.64 trips/unit**
43 in/24 out = **64%/36%**

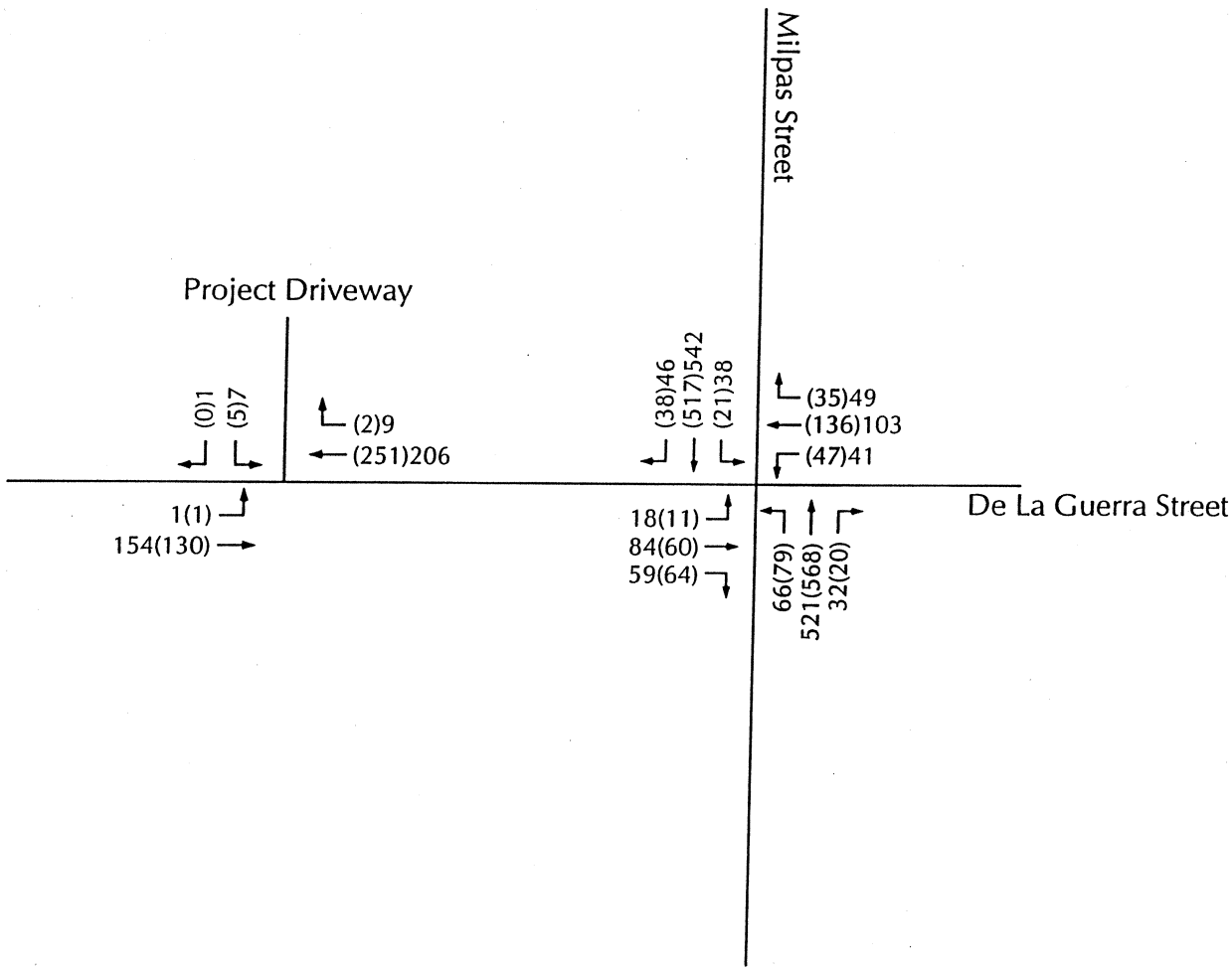
APPROVED AND PENDING PROJECT TRIP GENERATION WORKSHEET

Associated Transportation Engineers
Trip Generation Worksheet - With In/Out Splits

803 MILPAS STREET MIXED-USE PROJECT **PROJECT: #07030**

	Land Use	Size	Pass-by Factor	ADT		A.M. Peak Hour						P.M. Peak Hour					
				Rate	Trips	Rate	Trips	In %	Trips	Out %	Trips	Rate	Trips	In %	Trips	Out %	Trips
	ZONE A																
1.	2050 APS (COMMERCIAL)	-9,467	1.00	46.55	-441	1.400	-13	60%	-8	40%	-5	4.55	0	43%	0	57%	0
	2050 APS (OFFICE)	12,369	1.00	11.01	136	1.550	19	86%	16	14%	3	3.43	35	18%	6	82%	29
6.	ST. FRANCIS	115	1.00	5.86	674	0.440	51	17%	9	83%	42	0.52	60	67%	40	33%	20
5.	1600/1604 OLIVE STREET	6	1.00	5.63	34	0.450	3	38%	1	62%	2	0.47	3	53%	2	47%	1
12.	737 E. ANAPAMU	6	1.00	5.86	35	0.440	3	17%	1	83%	2	0.52	3	67%	2	33%	1
23.	130 E. VICTORIA (HOUSE)	-1	1.00	9.57	-10	0.750	-1	0%	0	100%	-1	1.01	-1	100%	-1	0%	0
	130 E. VICTORIA (OFFICE)	10,204	1.00	11.01	112	1.550	16	86%	14	14%	2	3.43	35	18%	6	82%	29
13.	21 E. ANAPAMU	12	1.00	5.86	70	0.440	5	17%	1	83%	4	0.52	6	67%	4	33%	2
15.	8. E. FIGUEROA	1,933	1.00	46.55	90	1.400	3	60%	2	40%	1	4.55	9	43%	4	57%	5
	TOTAL: ZONE A				**701**		**85**		**36**		**49**		**150**		**63**		**87**
	ZONE B																
4.	927/933 OLIVE (CONDOS)	5	1.00	5.86	29	0.440	2	17%	0	83%	2	0.52	3	67%	2	33%	1
	927/933 OLIVE (COFFICE)	690	1.00	22.66	16	2.970	2	86%	2	14%	0	3.40	2	18%	0	82%	2
11.	433 CANON PERDIDO (OFFICE)	-18,700	1.00	19.62	-367	2.620	-49	86%	-42	14%	-7	2.89	-54	18%	-10	82%	-44
	433 CANON PERDIDO (OFFICE)	9,500	1.00	22.66	215	2.970	28	86%	24	14%	4	3.40	32	18%	6	82%	26
	433 CANON PERDIDO (CONDOS)	18	1.00	5.86	105	0.440	8	17%	1	83%	7	0.52	9	67%	6	33%	3
10.	617 GARDEN (ATE #03154)				427		53		36		17		57		16		41
29.	631 OLIVE (OFFICE)	1,081	1.00	22.66	24	2.970	3	86%	3	14%	0	3.40	4	18%	1	82%	3
14.	202 E HALEY (RETAIL)	2,478	1.00	46.55	115	1.400	3	60%	2	40%	1	4.55	11	43%	5	57%	6
16.	518 GARDEN (CONDO)	-1	1.00	5.86	-6	0.440	0	17%	0	83%	0	0.52	-1	67%	-1	33%	0
	518 GARDEN (RETAIL)	-3,785	1.00	46.55	-176	1.400	-5	60%	-3	40%	-2	4.55	-17	43%	-7	57%	-10
	518 GARDEN (OFFICE)	7,150	1.00	22.66	162	1.550	11	86%	10	14%	1	3.40	24	18%	4	82%	20
	518 GARDEN (RETAIL)	2,200	1.00	46.55	102	1.400	3	60%	2	40%	1	4.55	10	43%	4	57%	6
17.	632 HALEY																
26.	709 E HALEY (RETAIL)	1,967	1.00	46.55	92	1.400	3	60%	2	40%	1	4.55	9	43%	4	57%	5
8.	810 BOND (COMMERCIAL)	5,612	1.00	46.55	261	1.400	8	60%	5	40%	3	4.55	26	43%	11	57%	15
	810 BOND (CONDOS)	3	1.00	5.86	18	0.440	1	17%	0	83%	1	0.52	2	67%	1	33%	1
	TOTAL: ZONE B				**1018**		**71**		**42**		**29**		**117**		**42**		**75**
	ZONE C																
20.	406 QUARANTINA (CONDO)	-1	1.00	5.86	-6	0.440	0	17%	0	83%	0	0.52	-1	67%	-1	33%	0
	406 QUARATINA (RETAIL)	2,653	1.00	46.55	123	1.400	4	60%	2	40%	2	4.55	12	43%	5	57%	7
21.	408 QUARNATINA (RETAIL)	2,717	1.00	46.55	126	1.400	4	60%	2	40%	2	4.55	12	43%	5	57%	7
2.	308 PALM (COMMERCIAL)	1,049	1.00	46.55	49	1.400	1	60%	1	40%	0	4.55	5	43%	2	57%	3
18.	403 E MONTECITO (OFFICE)	8,159	1.00	22.66	185	1.550	13	86%	11	14%	2	3.40	28	18%	5	82%	23
7.	535 MONTECITO (ATE #04072.01)	48	1.00	5.86	281	0.440	21	17%	4	83%	17	0.52	25	67%	17	33%	8
14.	336 N. NOPAL (LIGHT INDUSTRIAL)	-1,150	1.00	6.97	-8	0.920	-1	100%	-1	0%	-0	0.98	-1	0%	0	100%	-1
	336 N. NOPAL (OFFICE)	2,564	1.00	22.66	58	1.550	4	86%	3	14%	1	3.40	9	18%	2	82%	7
28.	221 N. NOPAL (CHURCH)	3,279	1.00	9.11	30	0.720	2	50%	1	40%	1	0.66	2	50%	1	50%	1
25.	716 E YANONALI (LIGHT INDUSTRIAL)	1,171	1.00	6.97	8	0.920	1	100%	1	0%	0	0.98	1	0%	0	100%	1
22.	722 UNION (HOUSE)	-1	1.00	9.57	-10	0.750	-1	0%	0	100%	-1	1.01	-1	100%	-1	0%	0
	722 UNION (GARAGE)	-667	N/A		0	N/A	0		0		0	N/A	0		0		
	722 UNION (LIGHT INDUSTRIAL)	3,386	1.00	6.97	24	0.920	3	100%	3	0%	0	0.98	3	0%	0	100%	3
30.	117 QUARANTINA (LIGHT INDUSTRIAL)	23,981	1.00	6.97	167	0.920	22	100%	22	0%	0	0.98	24	0%	0	100%	24
9.	116 E YANONALI (OFFICE)	-7,343	1.00	22.66	-166	2.970	-22	86%	-19	14%	-3	3.40	-25	18%	-4	82%	-21
	116 E YANONALI (CONDO)	6	1.00	5.86	35	0.440	3	17%	1	83%	2	0.52	3	67%	2	33%	1
	116 E YANONALI (RETAIL)	4,615	1.00	46.55	0	1.400	6	60%	4	40%	2	4.55	21	43%	9	57%	12
24.	520 E. YANONALI (LIGHT INDUSTRIAL)	1,550	1.00	6.97	11	0.920	1	100%	1	0%	0	0.98	2	0%	0	100%	2
	TOTAL: ZONE C				**907**		**62**		**36**		**26**		**118**		**42**		**76**

DRIVEWAY VOLUMES AND LEVELS OF SERVICE



LEGEND

XX - (A.M.)P.M. Peak Hour Volume

N

NOT TO SCALE

ASSOCIATED TRANSPORTATION ENGINEERS

EXISTING + PROJECT PEAK HOUR DRIVEWAY VOLUMES

MMF - #07030

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*MMF*	Intersection	*DE LA GUERRA/DRIVEWAY*
Agency/Co.	*ATE*	Jurisdiction	*SANTA BARBARA*
Date Performed	*5/15/2007*	Analysis Year	*EXISTING+PROJECT*
Analysis Time Period	*AM PEAK HOUR*		

Project Description *803 MILPAS MIXED-USE PROJECT #07030*

East/West Street: *DE LA GUERRA*	North/South Street: *PROJECT DRIVEWAY*
Intersection Orientation: *East-West*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*1*	*130*			*251*	*2*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*1*	*130*	*0*	*0*	*251*	*2*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration	*LT*					*TR*
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				*5*		*0*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*5*	*0*	*0*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration					*LR*	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LT*						*LR*	
v (veh/h)	*1*						*5*	
C (m) (veh/h)	*1324*						*623*	
v/c	*0.00*						*0.01*	
95% queue length	*0.00*						*0.02*	
Control Delay (s/veh)	*7.7*						*10.8*	
LOS	*A*						*B*	
Approach Delay (s/veh)	--	--				*10.8*		
Approach LOS	--	--				*B*		

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*MMF*	Intersection	*DE LA GUERRA/DRIVEWAY*
Agency/Co.	*ATE*	Jurisdiction	*SANTA BARBARA*
Date Performed	*5/15/2007*	Analysis Year	*EXISTING+PROJECT*
Analysis Time Period	*PM PEAK HOUR*		

Project Description *803 MILPAS MIXED-USE PROJECT #07030*

East/West Street: *DE LA GUERRA*	North/South Street: *PROJECT DRIVEWAY*
Intersection Orientation: *East-West*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*1*	*154*			*206*	*9*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*1*	*154*	*0*	*0*	*206*	*9*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration	*LT*					*TR*
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				*7*		*1*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*7*	*0*	*1*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration					*LR*	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LT*						*LR*	
v (veh/h)	*1*						*8*	
C (m) (veh/h)	*1367*						*657*	
v/c	*0.00*						*0.01*	
95% queue length	*0.00*						*0.04*	
Control Delay (s/veh)	*7.6*						*10.5*	
LOS	*A*						*B*	
Approach Delay (s/veh)	--	--				*10.5*		
Approach LOS	--	--				*B*		

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SHARED PARKING CALCULATIONS

803 MILPAS MIXED-USE PROJECT **WEEKDAY SHARED PARKING CALCULATIONS**

PROPOSED PROJECT:	Land Use (a)	Size		Parking Rate	Peak Demand
	Commercial (a)	3.224	ksf	3.02	10
	Condos (b)	8	units	0.25	2

	Retail	Condos	Total Weekday Accumulation
Peak Demand	10	2	
Hour of Day			
6:00 a.m.	0	0	0
7:00 a.m.	0	0	1
8:00 a.m.	2	0	2
9:00 a.m.	4	0	4
10:00 a.m.	5	0	6
11:00 a.m.	8	0	9
12:00 Noon	10	0	10
1:00 p.m.	10	0	10
2:00 p.m.	9	0	9
3:00 p.m.	8	0	9
4:00 p.m.	8	0	8
5:00 p.m.	6	1	6
6:00 p.m.	7	1	8
7:00 p.m.	8	2	10
8:00 p.m.	7	2	9
9:00 p.m.	4	2	6
10:00 p.m.	1	2	3
11:00 p.m.	1	2	3
12:00 a.m.	0	1	1

(a) ITE Parking Rates and Time of Day Factors for Non-December Shopping Center
(b) City of Santa Barbara parking requirement for Residential Visitors